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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,346	12/20/2001	Meilina Ong Abdullah	15179	3064

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EXAMINER	
COLLINS, CYNTHIA E	
ART UNIT	PAPER NUMBER
1638	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/028,346	ABDULLAH ET AL.	
	Examiner	Art Unit	
	Cynthia Collins	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 April 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-69* is/are pending in the application.

4a) Of the above claim(s) *7,14,24 and 27-69* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8-13,15-23,25 and 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8607,31004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I, Claims 1-6, 8-13, 15-23 and 25-26, drawn to an isolated nucleic acid molecule comprising SEQ ID NO:1, a genetic construct, a vector, a host cell, and a plant cell, in the reply filed on April 3, 2008 is acknowledged.

The traversal is on the ground(s) that 35 U.S.C. 121 requires that inventions be independent *and* distinct to be restrictable.

This is not found persuasive because an application may properly be required to be restricted to one of two or more claimed inventions if they are either independent *or* distinct (MPEP § 803).

The traversal is also on the ground(s) that SEQ ID NOS: 1 and 3 encode the same amino acid sequence, and on the grounds that SEQ ID NOS: 2 and 4 are identical amino acid sequences.

Applicant's assertions regarding SEQ ID NOs: 1, 2, 3 and 4 are and found persuasive, and therefore the restriction requirement between SEQ ID NOS: 1 and 3, and the restriction requirement between SEQ ID NOS: 2 and 4, is withdrawn.

The traversal is additionally on the ground(s) that the different groups are merely different aspects of a single invention.

This is not found persuasive because, as set forth at pages 4-9 of the restriction requirement mailed October 3, 2007, the different groups of invention are directed to separate and distinct compositions and methods that require separate areas of search.

The requirement is otherwise still deemed proper and is therefore made FINAL.

Claims 27-69 are withdrawn from consideration as being directed to nonelected inventions.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The disclosure is objected to because of the following informalities: the disclosure does not comply with 37 CFR 1.182, which requires that reference be made to a sequence by use of the sequence identifier, preceded by "SEQ ID NO:" in the text of the description or claims, even if the sequence is also embedded in the text of the description or claims of the patent application. E.g. Figures 3, 5 and 6. Appropriate correction is required.

The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. E.g. page 46. See MPEP § 608.01.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Lewis M.L. et al. (FePer 1, a gene encoding an evolutionarily conserved 1-Cys peroxiredoxin in buckwheat

(Fagopyrum esculentum Moench), is expressed in a seed-specific manner and induced during seed germination. Gene. 2000 Apr 4;246(1-2):81-91, and GenBank Accession No. AF191099, Fagopyrum esculentum 1-Cys peroxiredoxin (Per1) mRNA, complete cds., April 24, 2000).

Claims 1-2 are drawn to an isolated nucleic acid molecule encoding a polypeptide comprising an amino acid sequence substantially as set forth in SEQ ID NO:2 or an amino acid sequence having at least about 71% similarity to SEQ ID NO:2, wherein said polypeptide is present in plant zygotic embryos or embryogenic callus and is substantially not present in non-embryogenic tissue, including an isolated nucleic acid molecule that comprises a sequence of nucleotides substantially as set forth in SEQ ID NO: 1 or SEQ ID NO:3 or its complementary form, or a nucleotide sequence having at least about 71% similarity to SEQ ID NO:I or SEQ ID NO:3 or its complementary form or a nucleotide sequence capable of hybridizing to SEQ ID NO:I or SEQ ID NO:3 or its complementary form under low stringency conditions.

Claim 3 is drawn to an isolated nucleic acid molecule of Claim 1, wherein the nucleic acid molecule is developmentally regulated.

Claim 4 is drawn to an isolated nucleic acid molecule of Claim 1, 2 or 3, wherein the nucleic acid molecule is expressed substantially in embryogenic material of oil-palm plants or related plants but not in non-embryogenic material.

Claims 5-7 are drawn to an isolated nucleic acid molecule of Claim 1, wherein the nucleic acid molecule comprises the nucleotide sequence substantially as set forth in SEQ ID NO: 1 or SEQ ID NO:3.

Claims 8-9 are drawn to a genetic construct comprising a nucleic acid molecule encoding a polypeptide comprising an amino acid sequence substantially as set forth in SEQ ID NO:2 or

an amino acid sequence having at least about 71% similarity to SEQ ID NO:2, wherein said polypeptide is present in plant zygotic embryos or embryogenic callus and is substantially not present in non-embryogenic tissue, including a genetic construct wherein the nucleic acid molecule is substantially as set forth in SEQ ID NO:I or SEQ ID NO:3 or its complementary form, or a nucleotide sequence having at least about 71% similarity to SEQ ID NO:I or SEQ ID NO:3 or its complementary form or a nucleotide sequence capable of hybridizing to SEQ_ ID NO: 1 or SEQ ID NO:3 or its complementary form under low stringency conditions.

Claim 10 is drawn to a genetic construct of Claim 8, wherein the nucleic acid molecule is developmentally regulated.

Claim 11 is drawn to a genetic construct of Claim 8,-9 or 10, wherein the nucleic acid molecule

is expressed substantially in embryogenic material of oil-palm plants or related plants but. not in non embryogenic material.

Claims 12-14 are drawn to a genetic construct of Claim 8, wherein the nucleic acid molecule comprises a sequence of nucleotides substantially as set forth in SEQ ID NO: 1 or SEQ ID NO:3.

Claim 15 is drawn to a genetic construct of Claim 8 or 9, wherein said construct further comprises one or more promoter sequences or transcription termination sequences.

Claim 16 is drawn to a genetic construct of Claim 15, wherein said construct further comprises one or more origins of replication and/or selectable marker gene sequences.

Claim 17 is drawn to a vector comprising a construct of any one of Claims 8 to 16.

Claim 18 is drawn to a host cell comprising a nucleic acid molecule encoding a polypeptide comprising an amino acid sequence substantially as set forth in SEQ ID NO:2 or an amino acid sequence having at least about 71% similarity to SEQ ID NO:2, wherein said polypeptide is present in plant zygotic embryos or embryogenic callus and is substantially not present in non-embryogenic tissue.

Claim 19 is drawn to a host cell of Claim 18, wherein said nucleic acid molecule comprises a sequence of nucleotides substantially as set forth in SEQ ID NO: 1 or SEQ ID NO:3 or its complementary form, or a nucleotide sequence having at least about 71% similarity to SEQ ID NO:1 or SEQ ID NO:3 or its complementary form or a nucleotide sequence capable of hybridizing to SEQ ID NO: 1 or SEQ ID NO:3 or its complementary form under low stringency conditions.

Claim 20 is drawn to a host cell of Claim 18, wherein the nucleic acid molecule is developmentally regulated.

Claim 21 is drawn to a host cell of Claim 18, 19 or 20 wherein the nucleic acid molecule is expressed substantially in embryogenic material of oil-palm plants or related plants but not in non-embryogenic material.

Claims 22-24 are drawn to a host cell of Claim 18, wherein the nucleic acid molecule comprises the nucleotide sequence substantially as set forth in SEQ ID NO: 1 or SEQ ID NO:3.

Lewis M.L. et al. teach an isolated nucleic acid molecule isolated from buckwheat (Fagopyrum esculentum Moench) that encodes a 1-Cys peroxiredoxin polypeptide comprising an amino acid sequence having 79% similarity to SEQ ID NO:2 (page 83 Figure 1; see also sequence alignment between SEQ ID NO:2 and GenBank Accession No. AF191099). The

isolated nucleic acid molecule taught by Lewis M.L. et al. comprises a sequence of nucleotides substantially as set forth in SEQ ID NO: 1 or SEQ ID NO:3 or its complementary form, or a nucleotide sequence having at least about 71% similarity to SEQ ID NO:1 or SEQ ID NO:3 or its complementary form or a nucleotide sequence capable of hybridizing to SEQ ID NO:1 or SEQ ID NO:3 or its complementary form under low stringency conditions because it encodes a peroxiredoxin polypeptide.

While Lewis M.L. et al. are silent with respect to whether the polypeptide encoded by their isolated nucleic acid is present in plant zygotic embryos or embryogenic callus and is substantially not present in non-embryogenic tissue, Lewis M.L. et al. need not teach this limitation in order to anticipate the rejected claims, because the spatial location of a polypeptide limits the polypeptide (which composition is not claimed), not the nucleic acid that encodes the polypeptide (which composition is claimed).

While the nucleic acid molecule taught by Lewis M.L. et al. is developmentally regulated (page 88 Figures 6 and 7), Lewis M.L. et al. need not teach this limitation in order to anticipate the rejected claims, because the regulation of expression limits regulatory sequences (which composition is not claimed), not coding sequences (which composition is claimed).

While Lewis M.L. et al. are silent with respect to whether their nucleic acid is expressed substantially in embryogenic material of oil-palm plants or related plants but not in non-embryogenic material, Lewis M.L. et al. need not teach this limitation in order to anticipate the rejected claims, because the regulation of expression limits regulatory sequences (which composition is not claimed), not coding sequences (which composition is claimed).

Lewis M.L. et al. also teach a genetic construct that further comprises one or more promoter sequences or transcription termination sequences and one or more origins of replication and/or selectable marker gene sequences, a vector and a host cell (page 84 column 2 first paragraph).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis M.L. et al. (FePer 1, a gene encoding an evolutionarily conserved 1-Cys peroxiredoxin in buckwheat (Fagopyrum esculentum Moench), is expressed in a seed-specific manner and induced during seed germination. Gene. 2000 Apr 4;246(1-2):81-91) in view of Lee K.O. et al. (Rice 1Cys-peroxiredoxin over-expressed in transgenic tobacco does not maintain dormancy but enhances antioxidant activity. FEBS Lett. 2000 Dec 8;486(2):103-6) and Parveez G.K.A. et al. (Transgenic oil PALM: production and projection. Biochemical Society Transactions, 2000, 28(6):969-972).

Claim 25 is drawn to a host cell of Claim 18, wherein the cell is a plant cell. Claim 26 is drawn to a plant cell of Claim 25, wherein the cell is from an oil-palm plant.

The teachings of Lewis M.L. et al. are set forth above.

Lewis M.L. et al. do not teach a plant host cell or an oil-palm plant host cell.

Lee K.O. et al. teach a plant host cell. Lee K.O. et al. also teach that transgenic tobacco plants overexpressing Rice 1Cys-peroxiredoxin exhibit higher resistance against oxidative stress than do nontransformed tobacco plants (page 105 Figure 4).

Parveez G.K.A. et al. teach an oil-palm plant host cell (page 970).

Given that Lewis M.L. et al. teach a nucleic acid molecule that encodes a 1-Cys peroxiredoxin polypeptide comprising an amino acid sequence having 79% similarity to SEQ ID NO:2, given the teachings of Lee K.O. et al. that transgenic tobacco plants overexpressing Rice 1Cys-peroxiredoxin exhibit higher resistance against oxidative stress than do nontransformed tobacco plants, and given the teachings of Parveez G.K.A. et al. that oil-palm plants can be transformed, it would have been *prima facie* obvious to one skilled in the art at the time the invention was made to transform a plant cell, including an oil-palm plant cell, with a nucleic acid molecule encoding a 1-Cys peroxiredoxin, such as the nucleic acid molecule encoding a 1-Cys peroxiredoxin taught by Lewis M.L. et al. One skilled in the art would have been motivated to do so in order to improve the resistance of the plant cells to oxidative stress. One skilled in the art would have had a reasonable expectation of success given the success of both Lee K.O. et al. and Parveez G.K.A. et al. Accordingly, one skilled in the art would have been motivated to generate the claimed invention with a reasonable expectation of success. Thus, the claimed invention would have been *prima facie* obvious as a whole to one of ordinary skill in the art at the time the invention was made.

Remarks

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Collins whose telephone number is (571) 272-0794. The examiner can normally be reached on Monday-Friday 8:45 AM -5:15 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cynthia Collins/
Primary Examiner, Art Unit 1638

CC